Effect of Camostat Mesilate on Persistent Proteinuria of IgA Nephropathy

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Table 1. Changes in clinical data during 3 weeks of camostat mesilate administration

Dear Sir,

Camostat mesilate is a protease inhibitor developed for oral use. Recently we found its efficacy on proteinuria in patients with various glomerulonephritides including IgA nephropathy [1]. However, the number of the patients with IgA nephropathy in our previous study was only 3 and we have not referred to the details of these patients. In this study, we selected 9 patients with active IgA nephropathy (5 males and 4 females, aged 20-60 years) and administered camostat mesilate at a daily dose of 600 mg. All of them showed moderate proteinuria of more than 1.5 g/day even after weeks of combination therapy with prednisolone, cyclophosphamide, warfarin, and dipyridamole (fig. 1). The level of serum creatinine was less than 1.5 mg/dl and creatinine clearance was more than 70 ml/min/1.73 m². Focal and segmental necrotizing lesions and/or small cellular crescents were observed in addition to diffuse and moderate mesangial proliferation in every patient. Their blood pressure had been kept within the normal range with antihypertensive drugs at least 3 weeks before camostat mesilate treatment, and a thrombotest had been kept from 20 to 40% in all patients throughout the study.

Urinary protein excretion significantly decreased from 2.1 ± 0.2 to 1.4 ± 0.2 g/day during 3 weeks of camostat mesilate treatment. The hematuria had already been reduced before the administration of camostat mesilate (fig. 1). Serum levels of creatinine,

After

Before

Values are mean $\pm$ SEM.

In summary, we confirmed the antiproteinuric effect of camostat mesilate in IgA nephropathy. This effect might improve the renal prognosis of IgA nephropathy, since the massive proteinuria itself accelerates glomerulosclerosis by overloading mesangial systems in chronic glomerulonephritis [5].

total protein, albumin, total cholesterol, and triglycerides did not change during the treatment with the protease inhibitor (table 1).

Camostat mesilate was proven to have direct or indirect inhibitory effects on the kallikrein-kinin, coagulation, and complement systems, as well as on platelet function [2-4]. Through these multiple effects, camostat mesilate might reduce proteinuria in IgA nephropathy. All of the patients in this study, however, had already been treated with glu-cocorticoids, cyclophosphamides, warfarin, and dipyridamole for more than 5 weeks until amelioration of hematuria was observed (fig. 1). Thus, further study might be necessary to elucidate the exact mechanism whereby camostat mesilate reduces proteinuria.

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Fig. 1. Effect of camostat mesilate on urinary protein excretion in patients with IgA nephropathy. O = No therapy; • = under treatment with prednisolone (20 mg/day), cyclophosphamide (50 mg/day), warfarin, and dipyridamole (300 mg/day); n.s. = not significant; P = p value.

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O
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-9 -8 -7

2 3 4

1.4 ± 0.2

J(g/day)

Weeks

-5 -4 -3 -2 -1

2.2 ± 0.2 2.1 ± 0.2

I II

P < 0.01

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